Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examination – June – 2017**

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| **Code :** | **14CS2040** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PROGRAMMING IN JAVA** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Write a java program to read two integer values (N1,N2) through command line arguments, and find the armstrong numbers between N1 and N2. | CO2 | 5 |
| b. | A private bank needs to automate the banking process. They need to maintain various types of accounts like (Savings, Current, Loan) for their Customers. Further loan accounts are classified into home loan, car loan, personal loan.  From this given scenario,   1. Identify all the classes, and discuss about object, class and encapsulation. 2. Identify the inheritance relationship and discuss. | CO3 | 10 |
| c. | Given: int m = 5; int n = 1; int x = -1; int y = 6; int z=0; Evaluate the following.   1. z = m>>n; 2. z = x<<y; 3. z = x >>> n; 4. z = m ^ y; 5. byte b = m - n; // this will create compile error. Write the correct statement. | CO2 | 5 |
| (OR) | | | | |
| 2. | a. | Discuss on Java’s byte code and platform independence. | CO1 | 5 |
| b. | Write a java program to input an array of five integers. Read through the array using for each version of the for loop and find the sum of all elements in the array. | CO2 | 5 |
| c. | Consider that, you need to print January for input 1, February for input 2, March for input 3 . . . . . . and December for input 12. For the above scenario, for effective implementation, would you choose a switch statement (or) if – else statement. Justify your answer and discuss about nested switch with an example. | CO2 | 5 |
| d | Differentiate break and continue with appropriate examples. | CO2 | 5 |
| 3. | a. | Write an application to implement stack operatons. Create two user defined exception named “FullException” and “EmptyException”. Throw this exception at appropriate scenario and handle the same. | CO2 | 10 |
|  | b. | Discuss on nested interface and demonstrate the implementation of the nested interface with an example. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Discuss about static block with an example and list the restrictions on a static method. | CO3 | 5 |
|  | b. | Discuss about single inheritance and multilevel inheritance in java with appropriate example and demonstrate the use of super. | CO3 | 10 |
|  | c. | Differentiate method overloading and method overriding. | CO3 | 5 |
| 5. | a. | Given: enumMonths{ January, February, March, April, May, June, July, August, September, October, November, December}   1. Apply the java library methods ordinal() & values() with the given enum and display the results. 2. Create an one argument constructor to assign the number of days for each month. 3. Write a method to access the number of days of each month. | CO5 | 8 |
|  | b. | List the wrapper classes, also differentiate boxing and unboxing with an example. | CO1 | 8 |
|  | c. | Differentiate String and StringBuffer with example. | CO5 | 4 |
| (OR) | | | | |
| 6. | a. | List the fourways of constructing a StringBuffer. | CO5 | 4 |
|  | b. | Demonstate a deadlock situation in mutltithreading with an example. | CO4 | 6 |
|  | c. | Discuss about the two ways of creating a Thread with appropriate example. | CO4 | 10 |
| 7. | a. | Write a java program to demonstrate serialization and deserialization. | CO4 | 8 |
|  | b. | Create a java program for client – server chat. | CO4 | 8 |
|  | c. | Differentiate OutputStream andWriter. | CO2 | 4 |
| (OR) | | | | |
| 8. | a. | Write a java program to copy the contents of one file to another file. | CO2 | 7 |
|  | b. | Dicsuss about the life cycle of an Applet. | CO4 | 7 |
|  | c. | Assume, the following file is referring to the directory. From java directory, we want to access files that are of .docx type among many other file types. Write a java program to implement a FilenameFilter interface and access only the .docx files from the directory.  File file = new File(“/studies/java”); | CO4 | 6 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Write a GUI based java application to do the following.   1. Create a text field to input your name, a radio group that contains two radio buttonslabelled Male and Female, and a button labelled “CLICK”.Add the components to the Frame window and arrange the components in Flow Layout. 2. Handle the window event to close the Frame window. 3. On selecting the radio button, get the name from the text field and also get the selected radio button and store in appropriate variables. 4. On click of the Button move to another Frame window. | CO4 | 10 |
|  | b. | Develop a java programto move a circle located at position A to position B by considering the coordinates of each end point. | CO4 | 10 |